



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,608	06/12/2006	Niaz Irekovich Akishev	290312US41X PCT	2199

22850 7590 12/28/2007  
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
----------

EWALD, MARIA VERONICA

ART UNIT	PAPER NUMBER
----------	--------------

1791

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

12/28/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,608	<b>Applicant(s)</b> AKISHEV ET AL.	
	<b>Examiner</b> Maria Veronica D. Ewald	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/12/06</u> . | 6) <input checked="" type="checkbox"/> Other: <u>Foreign patent</u> .                   |

## **DETAILED ACTION**

### ***Specification***

13. The disclosure is objected to because of the following informalities: Page 6, lines 10 – 15 of the specification identifies the distance L between the pushers of the upper and lower rows. As written, it is unclear whether the distance is between the pushers of the upper rows only (or the pushers on the lower rows only) or the distance, as labeled in the drawings between one pusher of a lower row and the next or nearest pusher of the upper row. As written, the distance L may be interpreted to mean the distance between any two adjacent pushers (either two in the same row or two directly opposite one another). Appropriate clarification of the distance L is required. Furthermore, it is unclear what  $L_r$  refers to.  $L_r$  is identified as the step of zigzag lines; however, this is vague and thus, the definition  $L_r$  should be adequately identified. In the corresponding drawing,  $L_r$  seems to be the distance between peaks or protrusions. Appropriate correction is required.

### ***Drawings***

14. The drawings are objected to because  $L_r$  is not adequately identified. It appears that  $L_r$  is the distance between peaks or protrusions; however, it is must accurately labeled for clarity. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the

immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

15. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. As written, claim 1 identifies "the sealing roller" in line 4;

however, the specification makes no mention of a sealing roller, only a sealing cord 17.

Appropriate correction of the term "sealing roller" is required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 – 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 3 – 5 and 7 recite several limitations without appropriately identifying them as the first mention in any of the above claim(s). Claim 1 identifies "the transformable mandrel, the plane elements" in line 2, "the means for preliminary mandrel transformation, the removable vacuum chamber, the sealing roller, the vacuumization system" in lines 3 – 4, "the means for final mandrel transformation, the traverse, the drive" in line 5, "the mechanism for putting the mandrel into the initial plane state" in lines 6 – 7. Claim 3 recites the limitation "the perforations" in line 2. Claim 4 recites the limitation "the protrusions and the recesses" in lines 2 – 3. Claim 5 recites the limitation "the second traverse" in line 2, though there is no first traverse identified anywhere, only *the traverse* in claim 1. Claim 7 recites the limitations "the corrugated article" in line 2 and "the blank" in lines 3 – 4. Each of these limitations is mentioned in each claim above for the first time and thus, should either be identified as "a plane element" or "a mechanism", etc. Furthermore, with respect to "the second traverse," either a reference to "a first traverse" must be made or to "a plurality of

traverses", since claim 1 only identifies "the traverse", which is interpreted to mean one traverse. Appropriate correction of the above items is required.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernardon, et al. (U.S. 5,464,337) in view of Bach, et al. (U.S. 5,000,673). Bernardon, et al. teach a device for sheet material corrugation including a transformable mandrel (items 36 and 38 – figure 4A; column 6, lines 35 – 67), connected in-between with the use of gas-proof fabric (item 70 – figure 5; column 6, lines 13 – 24), the means for preliminary mandrel transformation including the removable vacuum chamber with the sealing roller and the vacuumization system (column 5, lines 40 – 50), and the means for final mandrel transformation including the traverse with the drive providing its plane-parallel travel characterized by that it includes the mechanism for putting the mandrel into the initial plane state containing two parallel slabs located one over another on either side of the mandrel and the drive providing their reciprocal travel (figures 4A and 5; column 6, lines 1 – 10, 50 – 67). Bernardon, et al. however, do not teach that the mandrel contains pivotable plane elements, which includes pushers traveling in the vertical plane in a seesaw configuration, such that there is a second

traverse located on the lower slab. The Examiner is noting that Bernardon, et al. already teach that the upper and lower mandrels are comprised of configurable surfaces. The surfaces are fabricated of flexible diaphragms and can be configured as articulated fingers, or configurable individual sections to conform to the article geometry desired.

In a method to produce wave-board panel, Bach, et al. teach the use of configurable dies, such dies linked pivotally via hinges. The hinges allow for uniform configuration and uniformity in the zigzags produced in the final product. The hinges can also be locked into place. The dies are pushed into place via pushers, disposed along two rows, both above and below the hinged dies which are attached to cylinders (item 6 – figure 1) which retract or push into place the upper and lower links to conform to the zigzag configuration desired (column 4, lines 1 – 10). The pushers can be locked into place simultaneously or consecutively, depending on the control of the cylinders. Furthermore, the protruding die on the upper pusher contacts the recessed portion of the lower pusher and the recessed portion of the upper die contacts the protruding die of the lower pusher (figure 3).

Thus, because both Bernardon, et al. and Bach, et al. teach the use of configurable dies or molding surfaces and Bernardon, et al. already teach the use of segmented or sectional mold elements, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to configure the mold surfaces of Bernardon, et al. such that they are pivotably linked as taught by Bach, et al. for the purpose of locking the mold elements into place and fabricating a wave-board panel that is uniform across its entire surface.

It is noted that claim 7 identifying "the corrugated relief height h as minimal after preliminary transformation is taken" is a limitation describing the article being worked upon and is not accorded weight. Per MPEP 2115, "expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." In re Young, 75 F.2d 996, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Because claim 7 does not include further structural components to the apparatus being claimed, the Examiner notes that the apparatus of Bernardon, et al. in combination with Bach, et al. is capable of producing the article of minimal height as claimed by Applicant.

***Allowable Subject Matter***

17. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the closest prior art references of Bernardon, et al., Bach, et al. and Arni, et al. do not teach the distance L between the pusher rows as equal to  $L = \sqrt{Lr^2 - h^2}$ .



***References of Interest***

18. Arni, et al. (U.S. 3,069,721), Ernest (U.S. 4,816,103), and Desyatov, et al. (SU 1706148) are cited of interest to show the state of the art. Arni, et al. teach the use of a tool, comprised of strip-like elements to make surface patterns and describes, in mathematical terms the distance between protrusions (pitch) relative to the thickness of the tool elements.

Ernest teaches the use of configurable dies, pivotably attached via a hinge mechanism; however, the pusher elements connected to the dies are located only on the top die. The bottom die remains stationary.

Desyatov, et al. teach the use of a surface-shaping tool comprised of a fabric connected to the lower surface of the mold elements.

***Conclusion***

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Veronica D. Ewald whose telephone number is 571-272-8519. The examiner can normally be reached on M-F, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/582,608  
Art Unit: 1791

Page 9

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVE

*James M. [Signature]*  
JAMES M. [Signature]  
12/21/07